



HFS Horizons Report

# Generative Enterprise™ Services, 2023

October 2023

**AUTHORS:**

Phil Fersht, CEO and Chief Analyst  
David Cushman, Executive Research Leader  
Niti Jhunjunwala, Senior Analyst

Excerpt for NTT DATA

“

People are excited by the potential impact of GenAI on their lives—both their work and their personal experiences. They want to know how they can be better than they are and how to make others around them better. They want to know how to keep enriching their experiences because of the promise of GenAI.



Phil Fersht  
CEO and Chief Analyst, HFS Research

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# 1

## Introduction, the HFS value chain, and market dynamics

# Introduction

- This ***HFS Horizons: Generative Enterprise™ Services, 2023*** report is the industry's first competitive analysis of professional services firms and the value they create with enterprise clients adopting and experimenting with generative AI (GenAI) technologies.
- HFS' Generative Enterprise™ articulates the pursuit of AI technologies based on large language models (LLMs) like ChatGPT and GPT-4 to reap huge business benefits for organizations in terms of continuously generating new ideas, redefining how work gets done, and disrupting business models steeped in decades of antiquated process and technology.
- The report examines and assesses 35 service providers. Our research evaluates the providers' capabilities to understand the ***Why, What, How, and So What*** of their Generative Enterprise services offerings.
- This report also includes detailed profiles of each service provider, outlining their provider facts, strengths, and development opportunities.
- We based this Horizons research on briefings from each of the participants along with publicly available announcements, datapoints, and case studies. We began with an open call for participation, resulting in unprecedented participation levels. We requested each participant to provide customer and partner references, and we have used their responses and supplementary customer reference data to ensure the voice of the customer impacts the outcomes. Where a service provider chose not to brief us, we created profiles and scores from publicly available announcements, case studies, data, and our regular conversations with leaders across functions and industries.

# Executive summary

- 1 The generative AI gold rush is on in pursuit of a \$7 trillion prize**

We've never seen a technology adopted so quickly. Generative AI's (GenAI) poster child, ChatGPT, reached 100 million users in two months. RPA took more than a decade to reach 15 million. Every boardroom is asking every CEO, "What are you doing with GenAI?" This bottom-up and top-down demand and the promise of a [\\$7 trillion prize](#) has prompted a gold rush among service providers as they hurry to organize and claim a piece of the action. In a matter of months, leading systems integrators and consultancies have conjured up new practices, divisions, platforms, and partnerships. They are scaling up, investing billions, training thousands of people, and recruiting thousands more—and this journey is only just beginning.
- 2 Point solutions dominate, but this is not where we will end up**

Already, we are witnessing a rapid diversion of AI budgets to GenAI projects. On average, this stands at 41% across the enterprises surveyed for this report, but we expect that to grow as enterprises move beyond their initial point solutions in POCs and pilots. Most are solving specific tasks. And as the next cycle of budget-making begins, we expect budgets to scale up to take GenAI deeper into end-to-end processes, shaping new ways of working. The next step will be harder but more rewarding, and if it doesn't happen, there are going to be a lot of red faces among service provider leaders, many of whom have gone all-in on GenAI.
- 3 The disruption is coming first and fastest to CX, EX, and sales and marketing**

As part of our research for this report, we asked enterprise leaders the functions they are prioritizing for the application of GenAI. Customer experience (CX), employee experience (EX), and sales and marketing lead the way. This chimes with the case studies shared by service providers. Transforming code has been touted as a leading use case by many service providers, and it features prominently in their own internal use and in services they offer. But, in our own research, it has only appeared in around 10% of the cases studies we've seen. A key thing to note regarding case studies to date is that many are proofs of concept and pilots, and few are coming with an ROI. At this stage in development, most enterprises are happy to see softer measures such as time-to-serve, CSAT, or time-to-market.
- 4 Knowing the tech is one thing; helping to transform with it is quite another**

Customers see a gap between how well their service providers deliver on tech implementation compared with their ability to transform business. It's an important gap as enterprises seek help on their journey to the Generative Enterprise beyond the initial point solutions. Knowing the tech is one thing; helping transform ways of working because of the tech is another altogether. We think this gap will close as many service providers are going all-in on GenAI, focusing on proving the effectiveness of applying GenAI to their own ways of working first. The lessons they learn through self-transformation will give them the credentials to help enterprises shape their journeys.
- 5 This revolution is personal, and you need to get down and dirty with it**

Using GenAI tools is where your personal experience and understanding begin. This is your due diligence. The journey to the [HFS Research Generative Enterprise](#) is not easy, but it starts with your understanding. Leaders need to develop their GenAI muscle memory to begin seeing the future through today's technology rather than persisting with a view constructed on their experience and knowledge of the technology of the past.

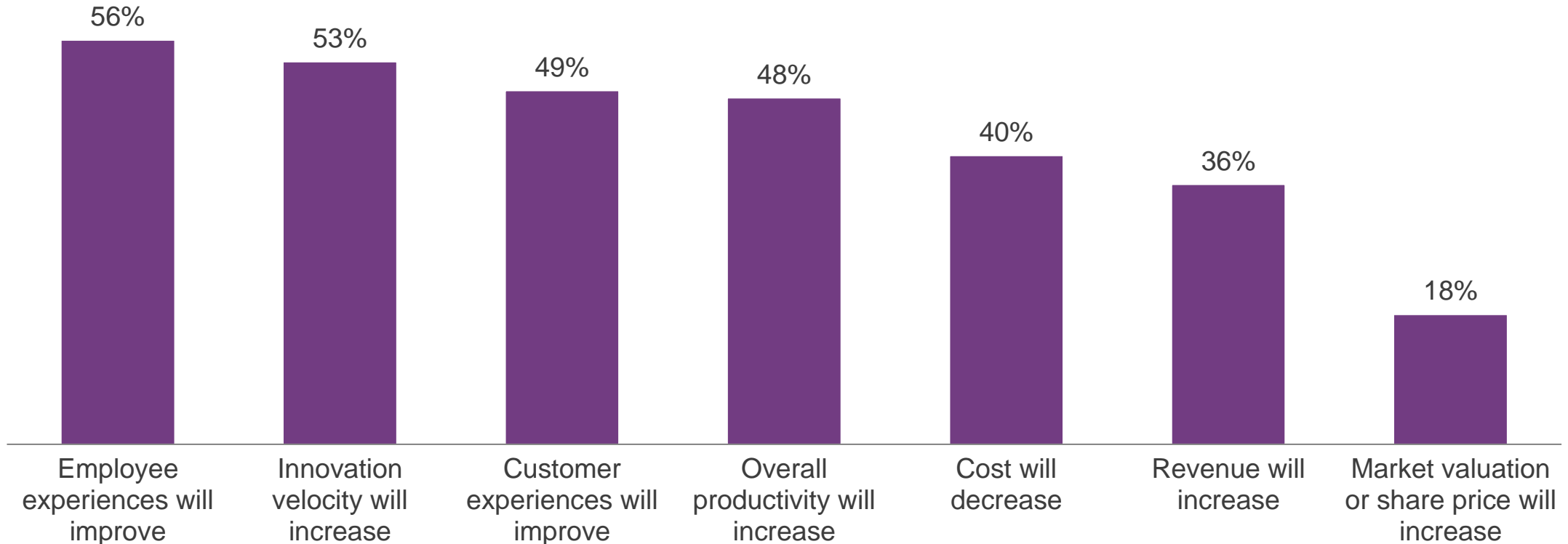
# The new S-curve

## An inflection point for the IT and business services industry

- The Generative Enterprise inspires a new S-curve of value creation for the IT and business services industry. Traditional outsourced service areas are likely to lose momentum in favor of AI-led, data-driven services focused on driving growth and sustaining trust. Successful relationships cannot be effort-driven; they must be performance- and purpose-driven. Hybrid pricing with baked-in innovation funds will be critical to prove value. (see page 9)
- The GenAI gold rush is on: Leading IT and business services firms made 50+ GenAI-related announcements in just two months early in 2023. The primary focus of these was on expanding hyperscaler partnerships. (see page 10)
- The Generative Enterprise and its widespread application of GenAI and other forms of AI can successfully manage the [Digital Dichotomy](#), balancing the macroeconomic Slowdown with the Big Hurry to innovate. (see page 15)
- Data and AI are like the stars of two galaxies colliding—the impact will destroy and create at an alarming rate. Without quality data, the benefits of AI will not scale, and to scale to the ecosystem, the data accessed will need to be increasingly private in nature. (see page 16)
- Stages of GenAI value creation for enterprises will be based on the nature of their data and the maturity of their technology. The impact of GenAI goes beyond productivity. (see pages 17-18)
- Roles GenAI will impact go beyond rote tasks, disrupting creativity and ideation.
- The road ahead is not easy. Page 20 lists 10 challenges every enterprise must consider.

# Enterprises expect EX, CX, innovation, and productivity wins

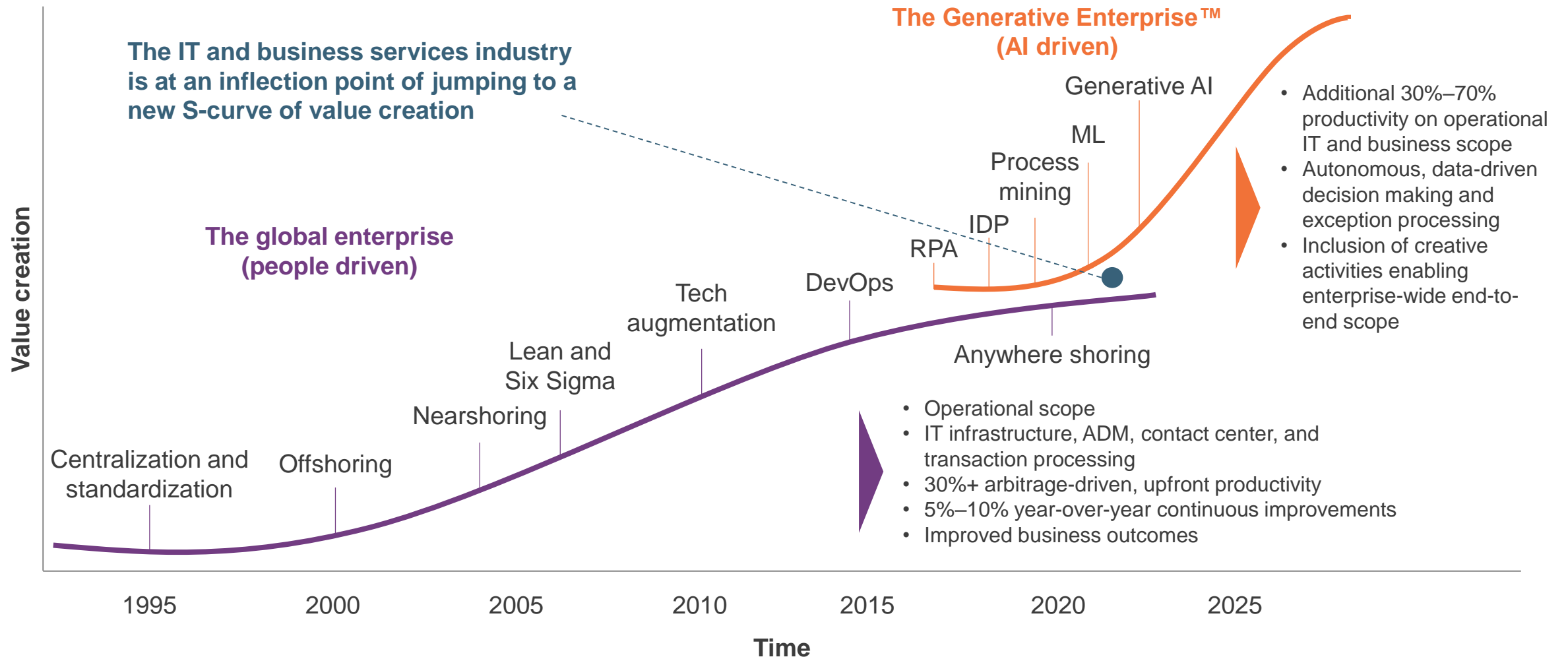
Q: How do you expect GenAI to impact company business economics over the next 12-18 months?



Sample: October 2023, 104 enterprises actively exploring and deploying GenAI across the Global 2000  
Source: HFS Research, 2023

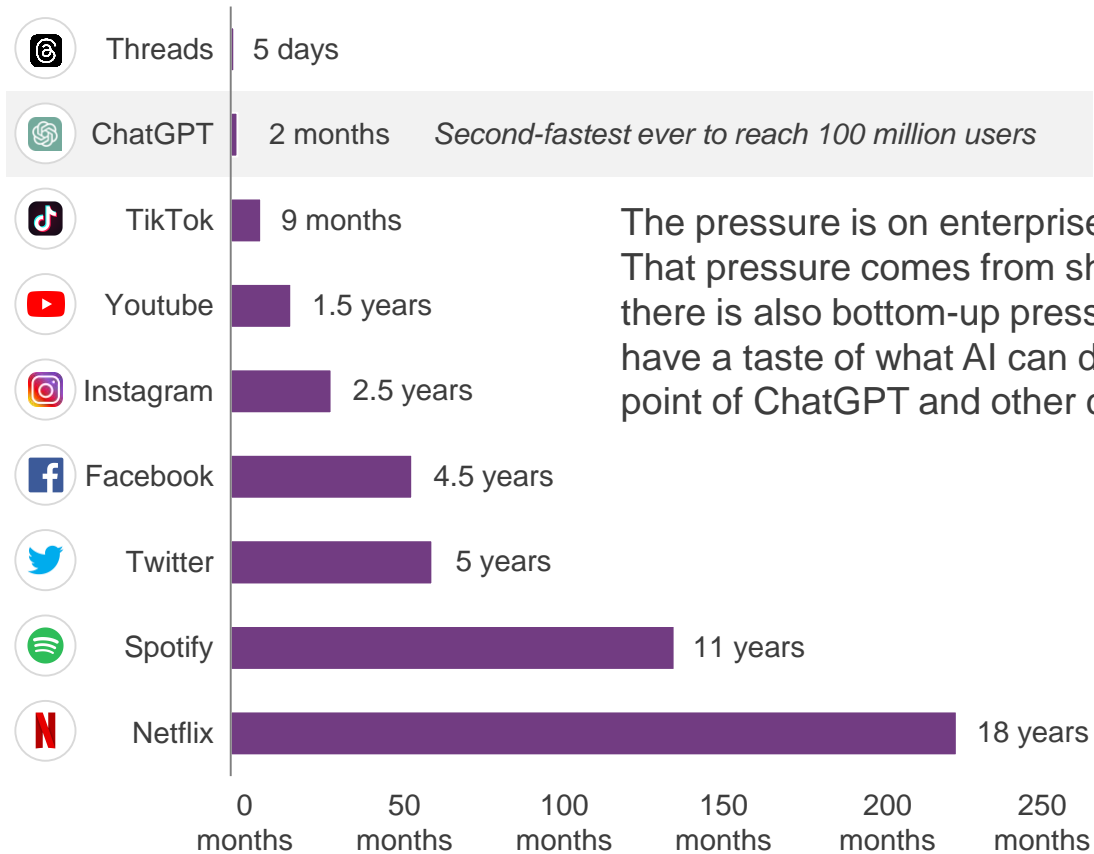


# The Generative Enterprise inspires a new S-curve of value creation

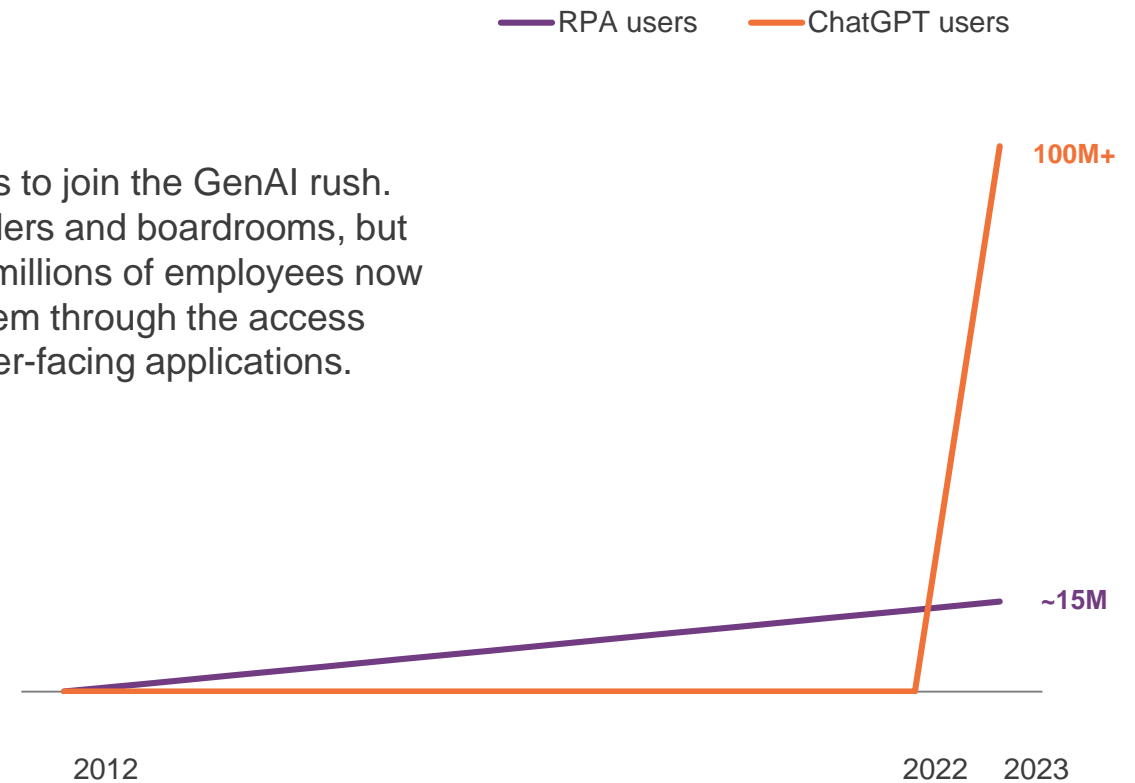


# End consumers' ultra-rapid adoption of GenAI technologies drives business-to-business adoption

## Road to 100 million users for various platforms



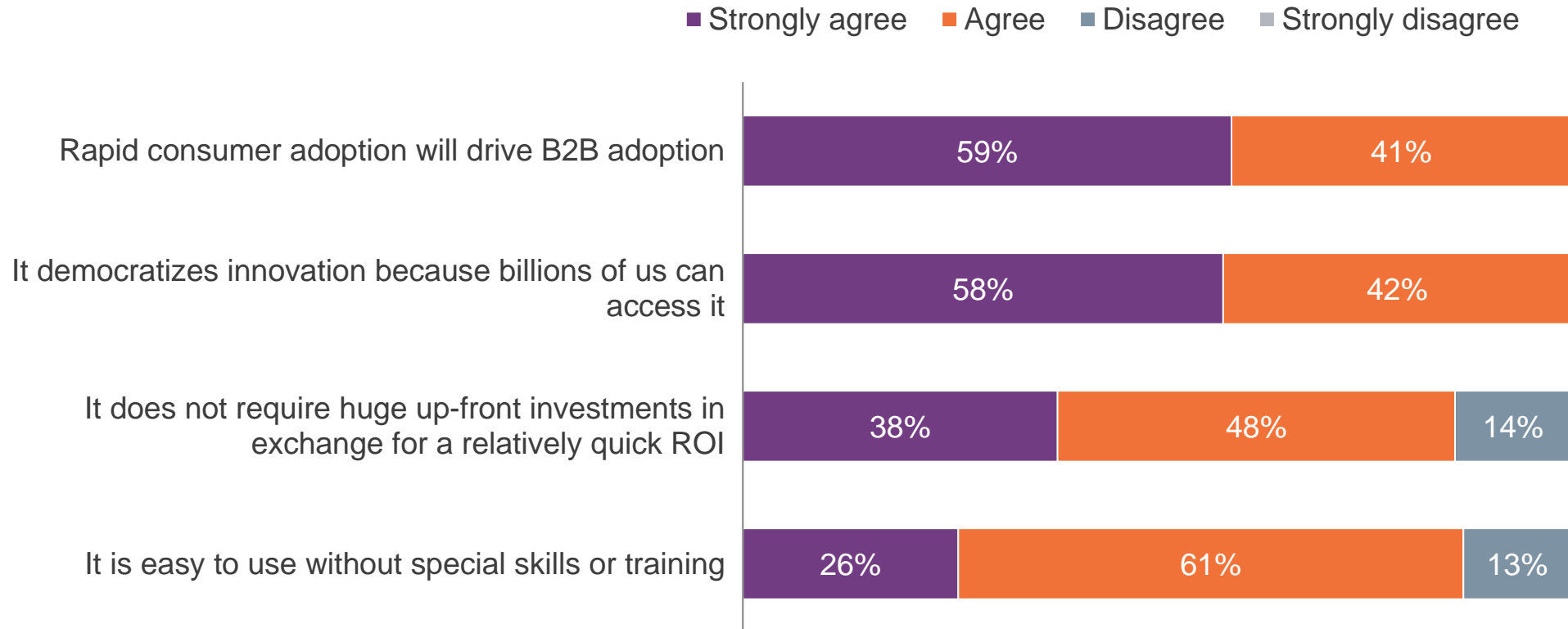
## Number of users over time (RPA versus ChatGPT)



Source: Publicly available information, HFS estimates

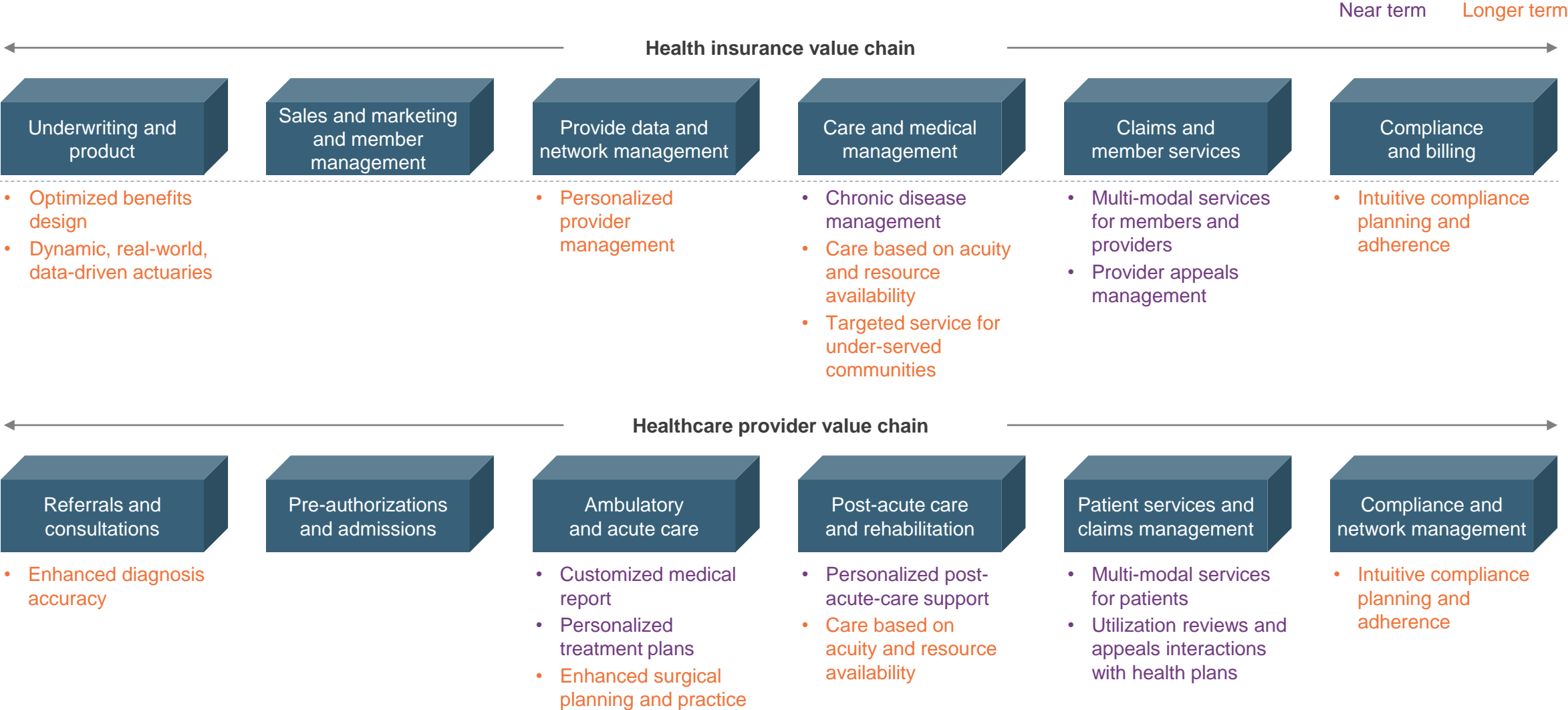
# Rapid consumer adoption makes GenAI a different disruption

Q: GenAI is drastically different from other recent technological disruptions (e.g., RPA, blockchain, metaverse, NFTs) because...



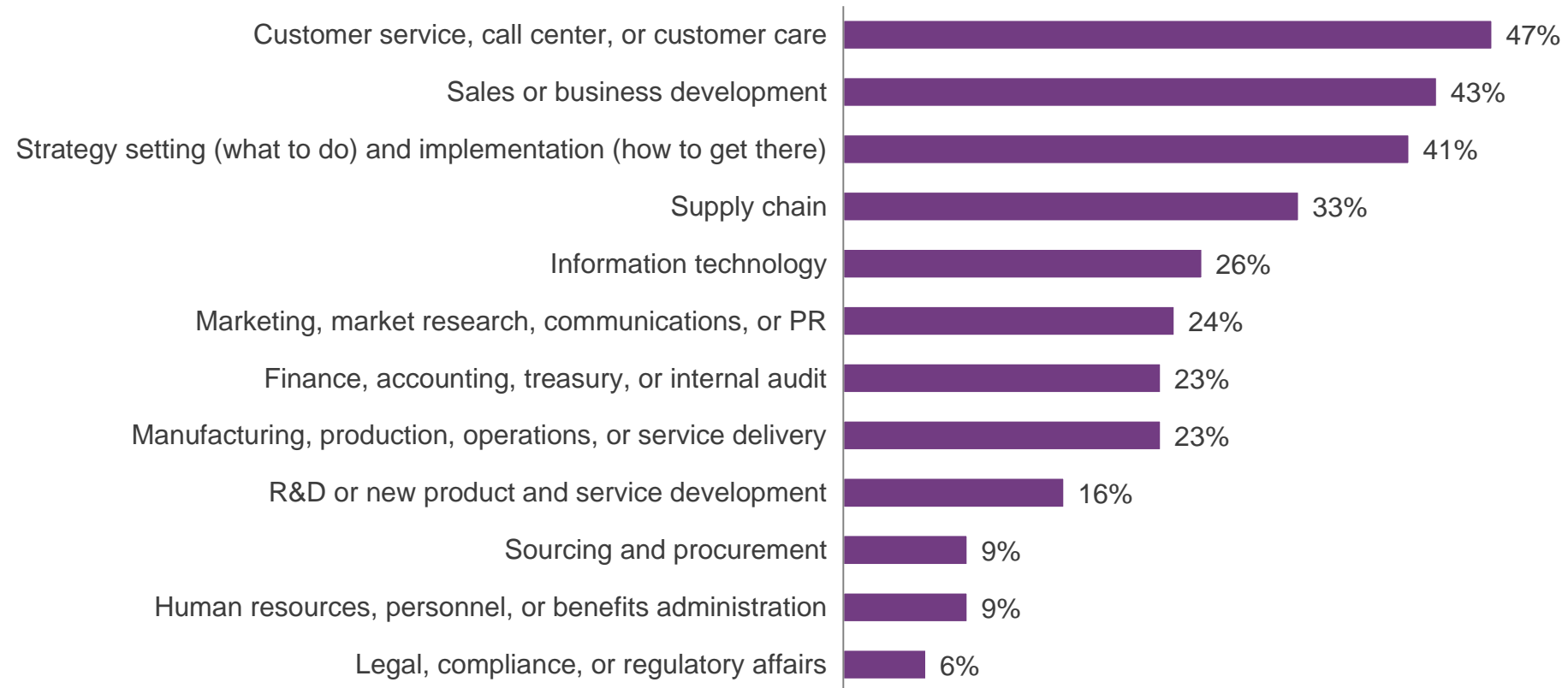
Sample: October 2023, 104 enterprises actively exploring and deploying GenAI across the Global 2000  
Source: HFS Research, 2023

# Enterprise-grade and governed GenAI can transform the services that IT and business services can provide in this healthcare example



# Leaders expect customer ops to create very high value in next 18 months

Q: Select the top three business functions where GenAI will create very high value over the next 12-18 months.



Sample: October 2023, 104 enterprises actively exploring and deploying GenAI across the Global 2000  
Source: HFS Research, 2023

# Top three essential—yet lacking—skills for success in GenAI

Q: Select the top three skills workers need to succeed, but lack, when using GenAI in the next 12-18 months.



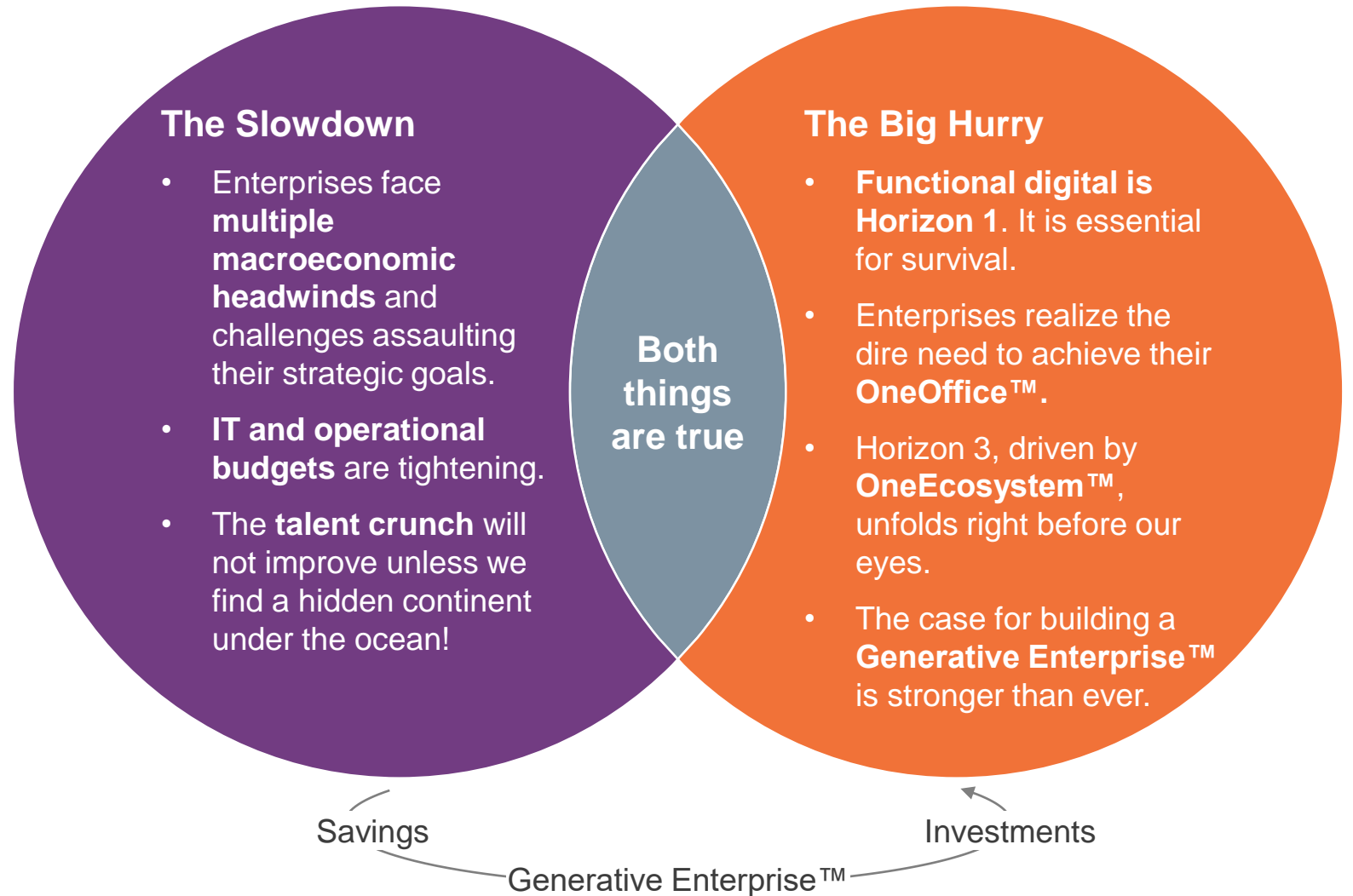
Sample: October 2023, 104 enterprises actively exploring and deploying GenAI across the Global 2000  
Source: HFS Research, 2023

# The Generative Enterprise can successfully manage the Digital Dichotomy, balancing the macroeconomic Slowdown with the Big Hurry to innovate

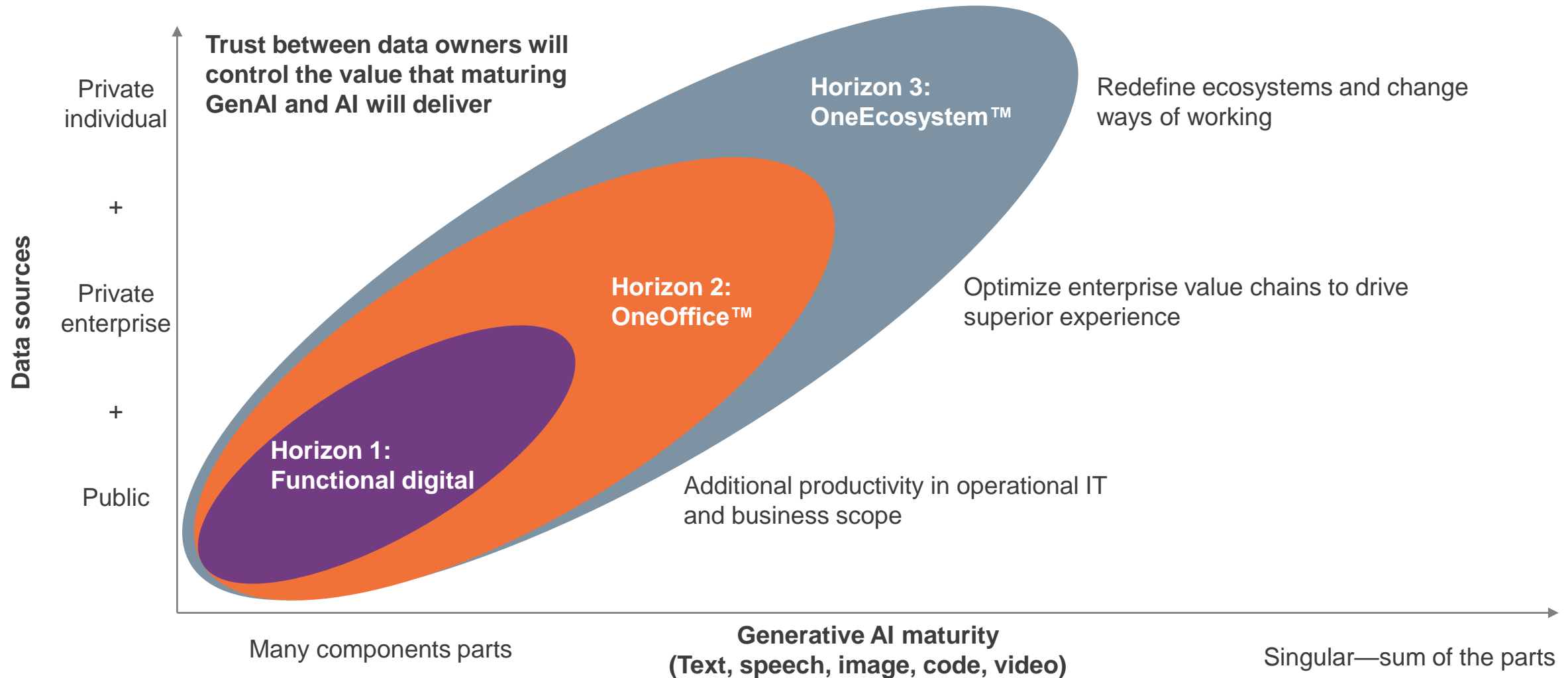
Cost savings are important but no longer sufficient to keep most leaders in their jobs.

Minimizing costs to a desired level is one ceiling of achievement, but ambitious enterprise C-suites must keep striving for new sources of value to stay competitive.

Investment in Generative Enterprise opportunities offers the chance to bridge the gap.



# Access to increasingly private data sets holds the key to redefining ecosystems, ways of working, and the value delivered

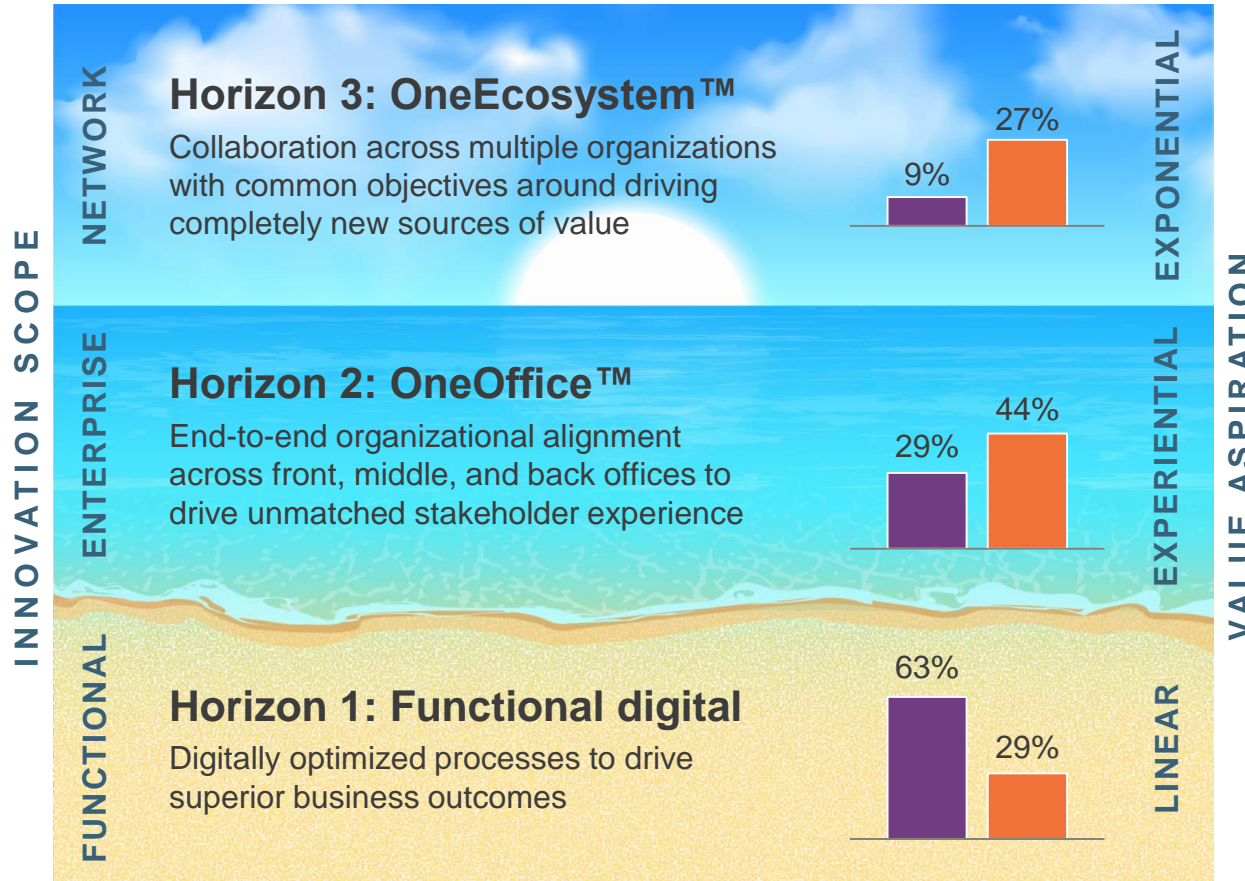




# GenAI could impact more than just productivity

## HFS Enterprise Innovation Framework

■ Current innovation focus
 ■ Expected innovation focus in 2 years



Sample: 602 executives across Global 2000 enterprises  
 Source: HFS Research, 2022

## Impact of GenAI across the three Horizons of enterprise innovation

### Horizon 3: OneEcosystem

*Redefine ecosystems and change ways of working*

- Exploit generative AI for competitive advantages and to potentially open new revenue streams
- GenAI is embedded into daily lives of consumers to influence and drive the way we live, work, and interact

### Horizon 2: OneOffice

*Optimize enterprise value chains to drive superior experience*

- Integration of generative AI with traditional analytical AI and its application across the value chain
- Autonomous data-driven decision making and exception processing
- Inclusion of creative activities enabling enterprise-wide end-to-end scope

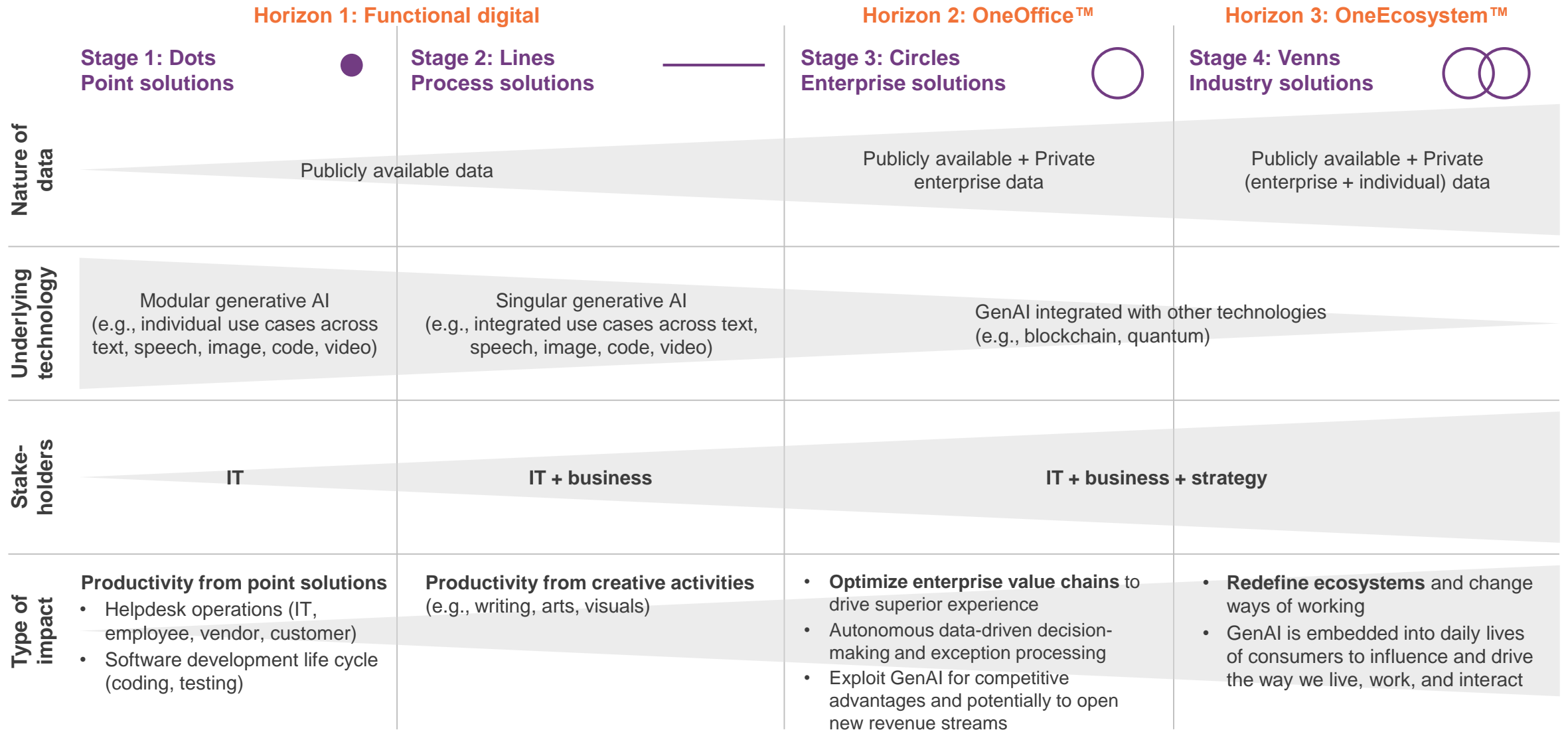
### Horizon 1: Functional digital

*Additional 30%–70% productivity in operational IT and business scope*

- Helpdesk operations (IT, employee, vendor, customer)
- Software development life cycle (coding, testing)
- Cybersecurity (threat hunting)

**New offerings** to build, deploy, and manage large language models

# The role of data, OneOffice, and OneEcosystem in how GenAI will impact the enterprise beyond productivity



# An entire ecosystem around GenAI is unfolding right before our eyes

## Apps

### Consumer uses

Entertainment	<b>character.ai</b> <b>Midjourney</b>
Productivity	OpenAI ChatGPT <b>neeva</b>
Other	<b>trigo</b> <b>woabi</b>

### Enterprise stack

General productivity	ADEPT tome	glean AlphaSense
General and administrative	Ironclad eightfold.ai	synthesia
Sales and customer support	GONG Clari	RevComm PolyAI
Marketing	Jasper	WRITER
EPD, IT, security	Moveworks VECTRA	Abnormal GitHub Copilot

### Industry verticals

Law firms	Harvey.
Creative	runway Midjourney imagen descript
Health	iz.ai BAYESIAN HEALTH insitro PathAI UNLEARN
Defense	ANDURIL Shield AI SLINGSHOT AEROSPACE VANNEVAR Labs
Agriculture and climate	Pachama FarmWise
Construction	CANVAS

### Enterprise applications

Adobe
PEGA
salesforce
SAP
servicenow
workday.

## Infrastructure

<h3>Deploy and monitor</h3>	<h3>Train and fine-tune models</h3>	<h3>Use open-source models and frameworks</h3>	<h3>Full-stack large language models</h3>						
<h3>Store and compute</h3> <table border="1"> <tr> <td>Label and process data</td> <td>Data warehouses or lakehouses</td> <td>Cloud service providers</td> </tr> <tr> <td>Snorkel scale surge COACTIVE</td> <td>snowflake databricks</td> <td>Google Cloud aws Azure</td> </tr> </table>	Label and process data	Data warehouses or lakehouses	Cloud service providers	Snorkel scale surge COACTIVE	snowflake databricks	Google Cloud aws Azure	<h3>Hardware</h3>		
Label and process data	Data warehouses or lakehouses	Cloud service providers							
Snorkel scale surge COACTIVE	snowflake databricks	Google Cloud aws Azure							

Source: HFS Research, Sequoia, 2023

# The enterprise journey may be uncomfortable—10 reasons why

“ While the promise of GenAI for enterprises is immense, it is too early to celebrate. I think this is not a slam dunk, and it will be an uncomfortable journey. Doing nothing is not the answer, but we need to embrace it with our eyes wide open!



**Saurabh Gupta**

President, Research and advisory

1. Most GenAI examples are not enterprise-centric, and only a handful of projects have reached production.
2. There is an arms race to build our foundational models with the crazy influx of capital. If the bubble bursts, the technology will be blamed.
3. More power is getting concentrated with hyperscalers. Enterprises are already frustrated with the oligopoly.
4. A brand-new ecosystem including Nvidia, Databricks, and startups is emerging. Enterprises don't know how to navigate this.
5. Governance and integration will be key. Most data privacy laws are trying to block a black-box approach. Major legislation is looming, including the US AI Bill of Rights and the EU AI liability directive. Litigation is kicking in.
6. The FTC has opened an investigation into ChatGPT-maker OpenAI over potential harm it could cause and the company's security practices.
7. Most GenAI use cases use public data. Getting enterprises to share private data will be challenging.
8. The singular focus on productivity is misleading.
9. Technology is continuing to evolve very rapidly, but enterprises are still struggling to adopt cloud!
10. The debate around AI's carbon footprint is just getting started.

# 2

## Research methodology

# Service providers covered in this report

accenture

AKKODIS

amdocs

ASCENDION

BAIN & COMPANY

brillio

Capgemini

Cigniti

CIKLUM

cognizant

Deloitte.

EVIDEN  
an atos business

EXL

EY

genpact

HCLTech

Hitachi Digital Services

IBM

Infosys®  
Navigate your next

KPMG

LTIMindtree

movate™

Mphasis  
The Next Applied

NTT DATA  
Trusted Global Innovator

Persistent

publicis  
sapient

pwc

SONATA  
SONATA SOFTWARE

SUTHERLAND®

TaskUs™

tcs TATA  
CONSULTANCY  
SERVICES

TECH  
mahindra

U ·  
S T

wipro

WNS

Note: All service providers are listed alphabetically

# Generative Enterprise services value chain (scope of services)

Training and education	Innovation	Consulting	Engineering	Technology management	Organizational change
<ul style="list-style-type: none"> <li>• C-suite education</li> <li>• Employee education</li> <li>• Employee training</li> <li>• Workshops</li> <li>• Hackathons</li> <li>• Introduction to technology and interfaces</li> <li>• Prompt training</li> <li>• Centers of excellence</li> <li>• Labs</li> </ul>	<ul style="list-style-type: none"> <li>• Use case generation</li> <li>• Build pilots, proofs of concept</li> <li>• Build production environments</li> <li>• Rapid iterative design</li> <li>• Build and test large language models</li> <li>• Identify ecosystem partners</li> <li>• Drive co-creation with ecosystem partners</li> </ul>	<ul style="list-style-type: none"> <li>• Policies and procedures</li> <li>• Privacy and security</li> <li>• Use case validation</li> <li>• Process redesign</li> <li>• Technology choices</li> <li>• Vendor relationship management</li> <li>• Technology selection and validation</li> <li>• Governance</li> <li>• Compliance</li> </ul>	<ul style="list-style-type: none"> <li>• Data strategy</li> <li>• Data engineering</li> <li>• Data analytics</li> <li>• Large language model build</li> <li>• Prompt engineering</li> <li>• Retrieval augmented generation (RAG)</li> <li>• Fine-tuning</li> </ul>	<ul style="list-style-type: none"> <li>• Ongoing technology innovations</li> <li>• Platform implementation</li> <li>• Platform management</li> <li>• Ecosystem management</li> </ul>	<ul style="list-style-type: none"> <li>• Change management</li> <li>• Function redesign</li> <li>• Help enterprises understand the data, processes, and interactions to drive functional optimization</li> <li>• Help enterprises break down the silos of data across the enterprise, continuously find patterns, and maintain robust governance across all decision points</li> <li>• Enable the OneOffice to significantly improve decision making and stakeholder experience</li> <li>• Ability to completely redefine how work is done (e.g., 30%-70% additional productivity, autonomous data-driven decision making, and the inclusion of creative activities, enabling enterprise-wide end-to-end scope)</li> </ul>

# The emerging Generative Enterprise technology ecosystem consists of many suppliers unknown to the enterprise a year ago

■ Apps ■ Models ■ Infrastructure

## End-to-end apps

*End-user-facing applications with proprietary models*

Examples: ChatGPT, Google Workspace, DALL·E, Midjourney, Runway

## Apps (text, code generation, speech, image, video, 3D models, audio, and music)

*End-user-facing B2B and B2C applications without proprietary models*

Examples: Jasper.ai, GitHub Copilot, Replit, Pictory.ai,

## Closed-source foundation models

*Large-scale, pre-trained models exposed via APIs*

Examples: GPT-3 and GPT-4 (OpenAI), PaLM and LaMDa (Google), LLaMA and Galactica (Meta), Chinchilla AI (DeepMind), Megatron-Turing NLG (Nvidia)

## Model hubs

*Platforms to share and host models*

Examples: Hugging Face, Replicate

## Open-source foundation models

*Models released as trained weights*

Examples: Stable Diffusion (Stability)

**Cloud and data platforms:** Examples: AWS, GCP, Azure, Databricks, Coreweave

**Compute hardware:** *Accelerator chips optimized for model training and inference workloads.* Examples: GPUs (Nvidia), TPUs (Google)

Source: Andreessen Horowitz (known as "a16z") and HFS Research



# Sources of data

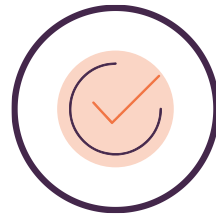
This report relied on a myriad of data sources to support our methodology and help us obtain a well-rounded perspective on Generative Enterprise service providers in our study. Sources are as follows:



## RFIs and briefings

Each participating vendor completed a detailed **RFI**.

HFS conducted **briefings** with executives from most vendors.



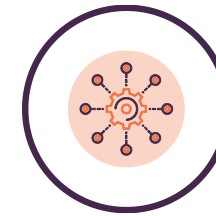
## Reference checks

We conducted reference checks with 30+ active clients of the study participants and 40+ active partners via phone-based interviews and detailed surveys.



## HFS vendor ratings

Each year, HFS fields multiple demand-side surveys in which we include detailed vendor rating questions.



## Other data sources

**Public information** such as press releases, websites, etc.

**Ongoing interactions, briefings, virtual events**, etc., with in-scope vendors and their clients and partners.

# Assessment methodology

The *HFS Horizons: Generative Enterprise Services, 2023* report evaluates the capabilities of providers to understand the *Why, What, How, and So What* of their Generative Enterprise services offering. Our assessment is based on inputs from clients and partners and augmented with analyst perspectives.

## Distinguishing supplier characteristics

Assessment dimension	Assessment sub-dimensions (Briefing questions)	Horizon 1 service providers	Horizon 2 service providers	Horizon 3 service providers
<b>Value proposition: The Why?</b>  (25%)	How does your firm define the value of AI for your clients?	<ul style="list-style-type: none"> <li>Help enterprises understand the data, processes, and interactions needed to drive functional optimization</li> </ul>	<ul style="list-style-type: none"> <li>Horizon 1+</li> <li>Ability to help enterprises break down data silos across the enterprise, continuously find patterns, and maintain robust governance across all decision points</li> <li>Enabling the OneOffice to significantly improve decision making, driving unmatched stakeholder experience</li> </ul>	<ul style="list-style-type: none"> <li>Horizon 2+</li> <li>Ability to completely redefine how work gets done (e.g., 30%-70% additional productivity, autonomous data-driven decision making, inclusion of creative activities enabling enterprise-wide end-to-end scope)</li> </ul>
	What is your firm's point of view on GenAI in terms of value creation potential? What will be the impact of GenAI for 1) clients and 2) your own firm?			
	Why should enterprises choose you for their Generative Enterprise journey as described by HFS? What makes you different or stand out?			
<b>Execution and innovation capabilities: The What?</b>  (25%)	Please describe your AI-driven offering(s)? What industries and use cases are you targeting? Which of these are in production versus pilots?	<ul style="list-style-type: none"> <li>Strong machine learning capabilities</li> <li>Typically offshore-focused with strong technical skills</li> </ul>	<ul style="list-style-type: none"> <li>Horizon 1+</li> <li>Strong machine learning, deep learning, natural language processing, and computer vision capabilities</li> <li>Offshore and nearshore capabilities with both technical and consulting skills</li> <li>Alliances with AI technology leaders</li> <li>Market ready AI-driven proprietary tools, assets, and frameworks</li> </ul>	<ul style="list-style-type: none"> <li>Horizon 2+</li> <li>Strong GenAI, LLMs, use cases, and capabilities</li> <li>Deep partnerships, including joint IP creation with AI technology leaders</li> <li>Strong frameworks for responsible and ethical AI</li> <li>Well-rounded capabilities across all value creation levers: talent, domain, technology, data, and change management.</li> </ul>
	What is your technology roadmap for GenAI? Describe any proprietary IP, frameworks, tools, solutions, and accelerators that you have. Please share your current client experiences with GenAI.			
	What other technologies (e.g., cloud, Web3, automation, metaverse) are important to deliver on the promise of AI?			
	Please describe the current strength of your trained resources on AI technologies? How is this expected to change in the next two years?			
<b>Go-to-market strategy: The How?</b>  (25%)	How are you organized internally to develop your AI offerings and capabilities?	<ul style="list-style-type: none"> <li>Primarily effort-based relationships</li> </ul>	<ul style="list-style-type: none"> <li>Horizon 1+</li> <li>Increasing number of performance-based relationships in the portfolio</li> </ul>	<ul style="list-style-type: none"> <li>Horizon 2+</li> <li>Driving co-creation with ecosystem partners</li> <li>Strong investments in GenAI</li> <li>Evidence of purpose-based (co-creation) partnerships with clients in addition to increasing number of performance-based relationships in the portfolio</li> </ul>
	Where are your main AI-related investments? (e.g., IP, partnerships, training, M&A)			
	How are you making sure the use of AI is responsible and ethical?			
	Please describe your commercial model for AI offerings. Include the approximate percentage of effort-based (e.g., FTE-based, T&M), performance-based (e.g., gain-sharing, innovation funds), and purpose-based (e.g., co-creation with clients) in your portfolio. How do you expect it to change in the next two years?			
	Please describe your AI ecosystem of partners. How do you plan to augment it for GenAI?			
<b>Market impact: The So What?</b>  (25%)	How are you organized to develop your Generative Enterprise offerings and capabilities—centralized, regional, or by vertical?	<ul style="list-style-type: none"> <li>Recognized as strong implementation vendors</li> <li>Referenceable and satisfied clients for ability to execute</li> </ul>	<ul style="list-style-type: none"> <li>Horizon 1+</li> <li>Recognized as strategic partners by clients</li> <li>Referenceable and satisfied clients for ability to execute and innovate</li> </ul>	<ul style="list-style-type: none"> <li>Horizon 2+</li> <li>Recognized as thought leaders by clients</li> <li>Referenceable and satisfied clients driving new business models with partnerships</li> </ul>
	Please share client experiences with Generative Enterprise.			
	Voice of the customer			

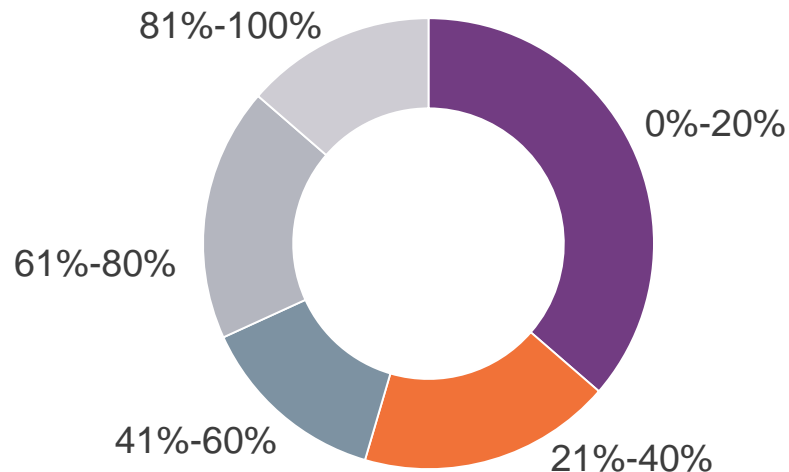
# 3

## Demographics and customer and partner data

# The average shift in spending from AI to GenAI is already 41%

- We surveyed customer references provided by service providers to understand their current investments. GenAI budgets have primarily been carved out of AI budgets in 2023, and project scale remains small.
- Among enterprises surveyed, the average number of people involved in AI projects was just less than 20.
- The average amount of money spent on third parties to get projects done was about \$560,000.

## Proportion of AI spending shifted to GenAI since 2023



Weighted average of spending that switched from AI to GenAI

**41%**

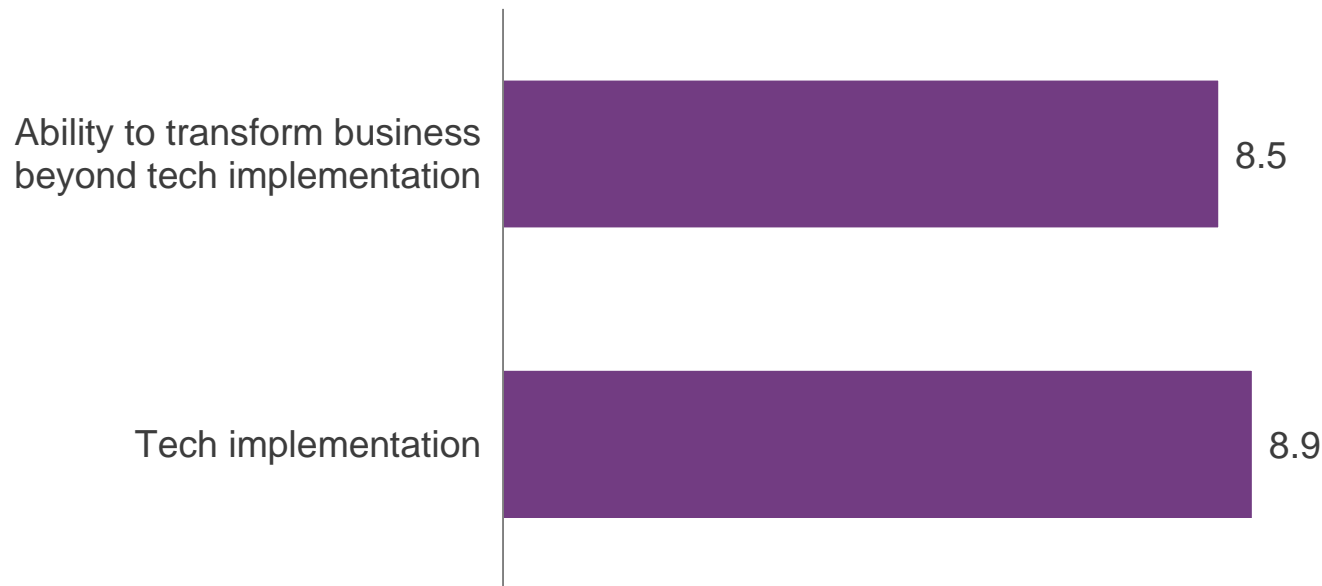
Sample: 31 customer references provided as part of the survey for this report  
Source: HFS Research, 2023

# Service providers deliver on tech—less so on business change

## Customer view: Gap between tech and transformation capabilities

Provider capabilities

Customer ratings of service providers—average out of 10



We asked 31 customer references to score their Generative Enterprise service providers on a scale of 1 to 10.

- Customers see a gap between how well their service providers deliver on tech implementation and their ability to transform business.
- Enterprises want this gap filled as they seek help on their journey to the Generative Enterprise. Knowing the tech is one thing; helping transform ways of working because of the tech is another altogether.

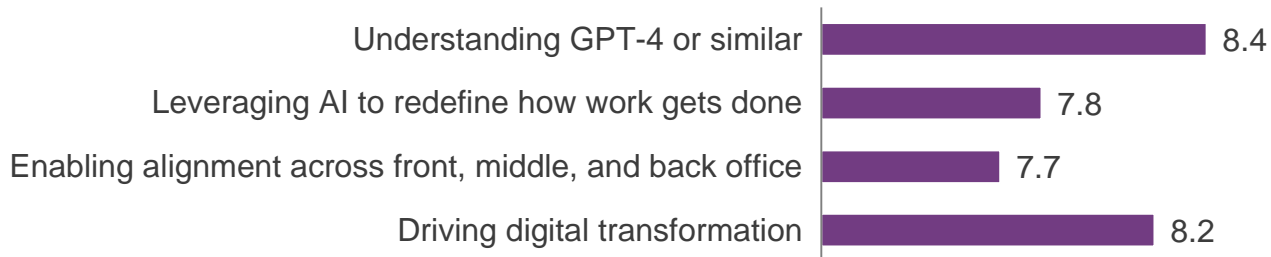
Sample: 31 customer references provided as part of the survey for this report  
Source: HFS Research, 2023

# Partners see service providers through rose-tinted glasses

## Customer view of what service providers best deliver

Provider capabilities

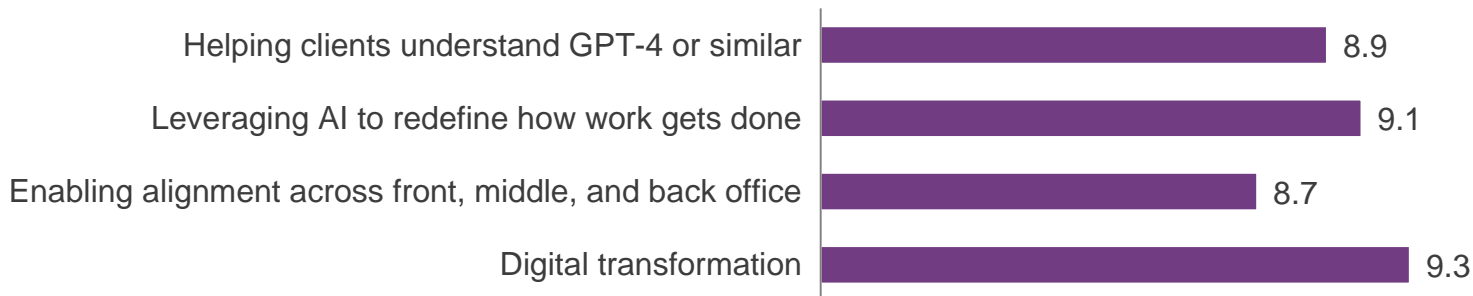
Customer ratings of service providers—average out of 10



## Partner view of what service providers best deliver

Provider capabilities

Partner ratings of service providers—average out of 10



Sample: 47 GenAI partners and 31 customer references provided as part of the survey for this report

Source: HFS Research, 2023

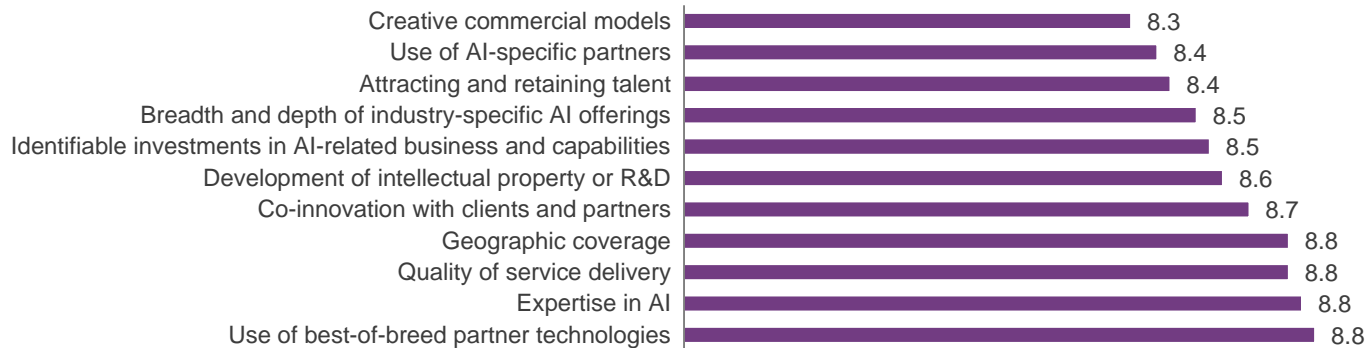
- Partners think the service providers they work with are doing a much better job than customers give them credit for.
- For example, customers score service providers an average of 8.4/10 for their capabilities in helping them understand GPT-4 (and similar next iterations) of GenAI. Partners score them close to 9/10.
- There's a gap across the four parameters we asked partners and customers to rate, indicating the need for service providers to question how well they are doing from the customers' point of view.
- The starkest example is the gap between views on how well service providers are helping clients leverage AI to redefine how work gets done. This gap reiterates the gap customers identify between capabilities in tech implementation and the ability to drive change (shown on the previous slide).

# Partners and customers call out service provider talent issue

## Customer ratings of service providers for delivery capabilities

Provider capabilities

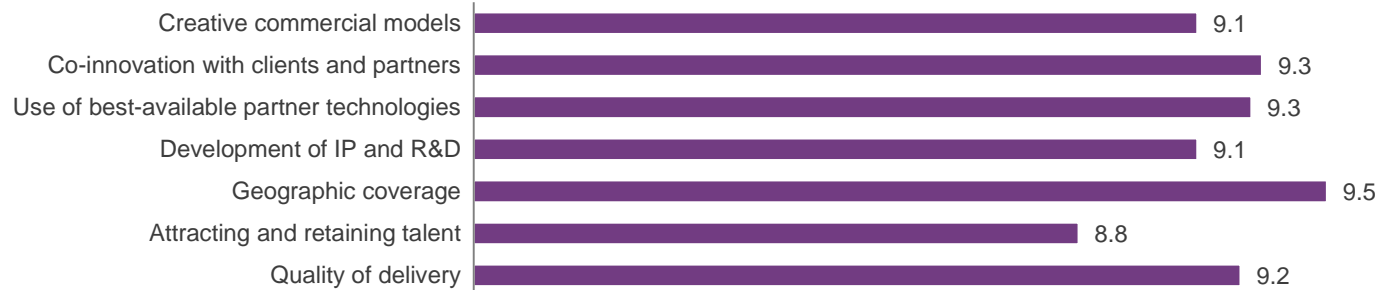
Customer ratings of service providers—average out of 10



## Partner ratings of their service provider partners

Provider capabilities

Partner ratings of service providers—average out of 10



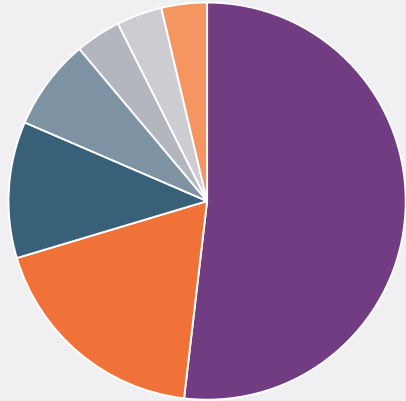
- Again, partners are happier to slap the backs of their service provider colleagues than service provider customers are.
- Partners and customers score service providers relatively low on attracting and retaining talent. It's a talent war out there!
- Partners and customers want more creativity when it comes to commercial models. GenAI lends itself to outcome models, but we aren't seeing the data reflect that yet.

Sample: 47 GenAI partners and 31 customer references provided as part of the survey for this report

Source: HFS Research, 2023

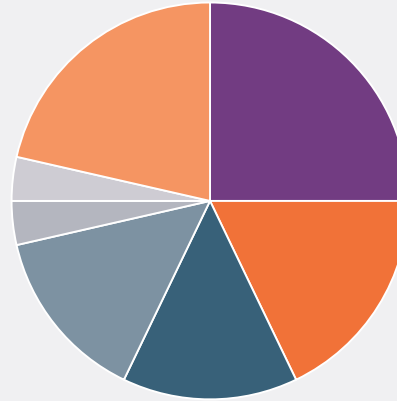
# Survey demographics (enterprise customer respondents)

## Customer geographic split



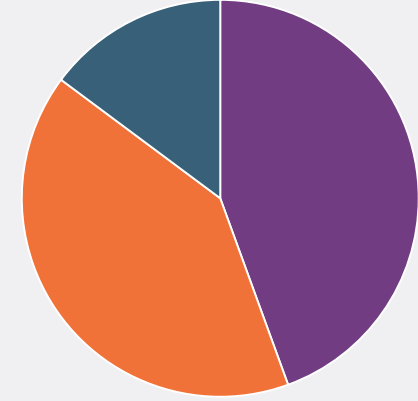
- North America
- Europe
- Asia Pacific
- United Kingdom
- Latin America
- India
- Australia or New Zealand

## Primary focus of current role



- Digital
- Software engineering
- Architecture
- Data
- Infrastructure
- Cybersecurity
- Other

## Business or IT focus



- IT
- Business
- Other

Sample: 31 customer references provided as part of the survey for this report  
Source: HFS Research, 2023



# 4

## Horizons results: Generative Enterprise™ services, 2023

# HFS Horizons—summary of Generative Enterprise service providers assessed in this report (1/2)

Providers (alphabetical order)	HFS point of view
<b>Accenture</b>	\$3 billion investment to apply GenAI and AI to industry's toughest challenges
<b>Akkodis</b>	A data and ROI governance focus to drive innovation
<b>Amdocs</b>	Taking GenAI deep into telco
<b>Ascendion</b>	Becoming a Generative Enterprise to help clients become Generative Enterprises
<b>Bain</b>	Helping enterprise leaders understand GenAI disruption to augment with it
<b>Brillio</b>	Quick start with vertical solutions and outcome-based pricing
<b>Capgemini</b>	Converting GenAI delivery experience into services for CX, strategy, software, and data privacy
<b>Cigniti</b>	Pushing back against the hype of GenAI with an expectation-setting reality stick
<b>Ciklum</b>	Agile engineering chops to get GenAI out of the blocks fast
<b>Cognizant</b>	Enabling human-machine creative collaboration

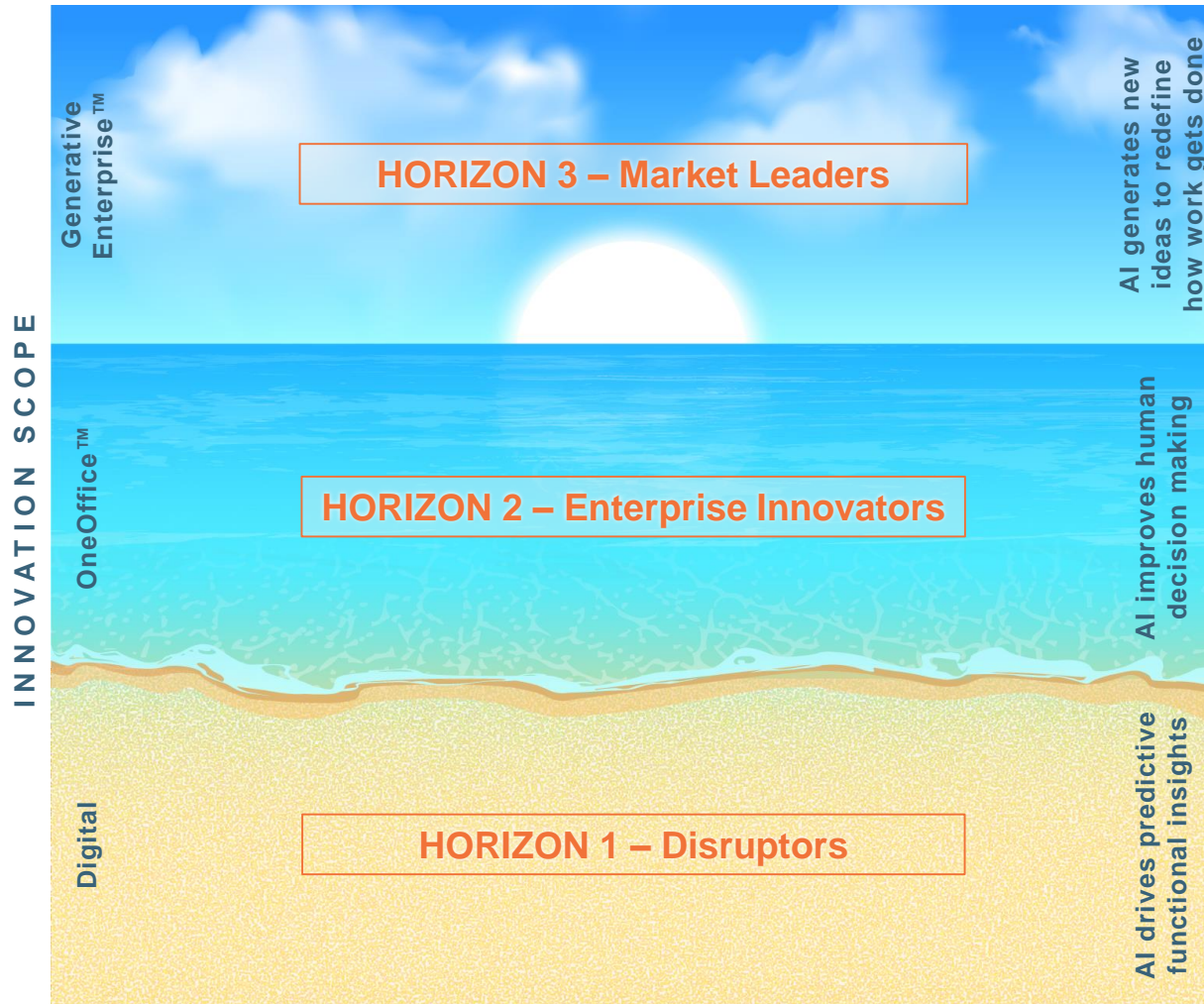
Providers (alphabetical order)	HFS point of view
<b>Deloitte</b>	Value-led approach to integrating GenAI into AI strategy
<b>Eviden</b>	Accelerating the GenAI journey with AI and cloud
<b>EXL</b>	Data, AI, and domain chops for a vertical GenAI approach
<b>EY</b>	Re-thinking how the enterprise works through AI and GenAI
<b>Genpact</b>	Targeting the shift to outcome-driven processes
<b>HCLTech</b>	Data-focused, experienced early adopter of all things AI
<b>Hitachi Digital Services</b>	Relatively slow starters must now prove considered approach will pay off with rapid market traction
<b>IBM</b>	Serious AI chops show the way to the Generative Enterprise
<b>Infosys</b>	Navigating from digital to an AI-first core infused with GenAI
<b>KPMG</b>	Balancing and managing the GenAI risks and rewards

# HFS Horizons—summary of Generative Enterprise service providers assessed in this report (2/2)

Providers (alphabetical order)	HFS point of view
<b>LTIMindtree</b>	Platform approach with prompts, ethics, and other controls to de-risk GenAI
<b>Movate</b>	Helping customers learn the value of GenAI in CX
<b>Mphasis</b>	Listening and responding to clients' needs in customer service, developer productivity, and service desk transformation
<b>NTT Data</b>	Embedded GenAI—beyond innovation for transformation
<b>Persistent</b>	Data-led GenAI engineering expertise prepares the way ahead
<b>Publicis Sapient</b>	GenAI walks hand in hand with digital business transformation for CX and EX
<b>PwC</b>	Regulatory know-how to de-risk GenAI investments
<b>Sonata</b>	Responsible-first approach focused on governance

Providers (alphabetical order)	HFS point of view
<b>Sutherland</b>	GenAI is just a tool to deliver better customer outcomes
<b>TaskUs</b>	Deep LLM know-how focused on multiple CX cases
<b>TCS</b>	Applying GenAI to level-up employees across the enterprise
<b>Tech Mahindra</b>	Use-case-focused guidance for experimentation
<b>UST</b>	Credible GenAI solutions built to keep bias out
<b>Wipro</b>	Building digital-era AI-first intelligent enterprises
<b>WNS</b>	Reduced-risk domain-focused GenAI through co-creation and outcome pricing

# HFS Horizons for Generative Enterprise Services, 2023



**Horizon 3 market leaders enable the Generative Enterprise by leveraging AI to generate new ideas to redefine how work gets done**

**Horizon 3 service providers demonstrate**

- Horizon 2 +
- Strong GenAI and LLM models, use cases, and capabilities
- Ability to completely redefine how work gets done (e.g., 30%-70% additional productivity, autonomous data-driven decision making, inclusion of creative activities enabling enterprise-wide end-to-end scope)
- Strong frameworks for responsible and ethical AI
- Driving co-creation with ecosystem partners
- Well-rounded capabilities across all value creation levers: talent, domain, technology, data, and change management
- Deep partnerships including joint IP creation with AI technology leaders
- Strong investments in Generative AI
- Evidence of purpose-based (co-creation) partnerships with clients in addition to increasing number of performance-based relationships in the portfolio
- Recognized as thought leaders by clients
- Referenceable and satisfied clients driving new business models with partnerships

**Horizon 2 enterprise innovators enable the OneOffice by leveraging AI to improve decision making and driving unmatched stakeholder experience**

**Horizon 2 service providers demonstrate**

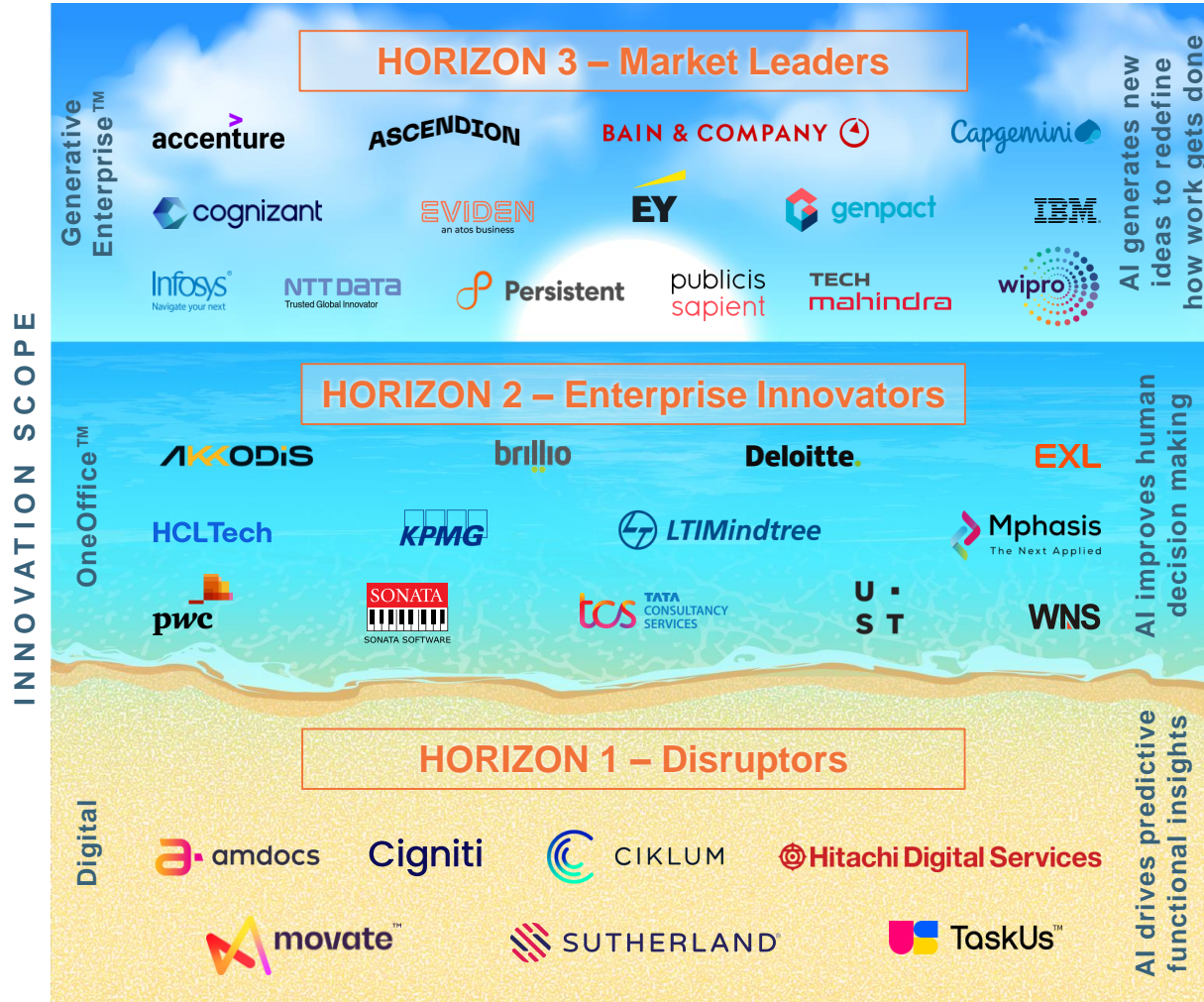
- Horizon 1 +
- Strong ML, deep learning, natural language processing, and computer vision capabilities
- Ability to help enterprises break down the silos of data across the enterprise, continuously find patterns, and maintain robust governance across all decision points
- Enabling the OneOffice to significantly improve decision making driving unmatched stakeholder experience
- Increasing number of performance-based relationships in the portfolio
- Market ready AI-driven proprietary tools, assets, and frameworks
- Offshore and nearshore capabilities with both technical and consulting skills
- Alliances with AI technology leaders
- Recognized as strategic partners by clients
- Referenceable and satisfied clients for ability to execute and innovate

**Horizon 1 Disruptors drive digital transformation by leveraging AI to drive predictive functional insights**

**Horizon 1 service providers demonstrate**

- Strong ML capabilities
- Help enterprises understand the data, processes, and interactions needed to drive functional optimization
- Primarily effort-based relationships
- Recognized as strong implementation vendors
- Typically offshore-focused with strong technical skills
- Referenceable and satisfied clients for ability to execute

# HFS Horizons for Generative Enterprise Services, 2023



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- Strong ML, deep learning, natural language processing, and computer vision capabilities
- Ability to help enterprises break down the silos of data across the enterprise, continuously find patterns, and maintain robust governance across all decision points
- Enabling the OneOffice to significantly improve decision making driving unmatched stakeholder experience
- Increasing number of performance-based relationships in the portfolio
- Market ready AI-driven proprietary tools, assets, and frameworks
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Note: All service providers within a “Horizon” are listed alphabetically

# 5

## NTT Data profile: Generative Enterprise™ services, 2023

# NTT Data: Embedded GenAI—beyond innovation for transformation



Strengths	Development opportunities
<ul style="list-style-type: none"> <li>• <b>Value proposition:</b> GenAI is baked into already mature approaches. NTT Data aims to take GenAI beyond innovation to transformation. It is using GenAI to reinvent itself.</li> <li>• <b>Growth proof points:</b> NTT Data has trained 9,000 GenAI developers this year and has 54,000 expert developers, with plans for 117,000 (60% of total employees) by 2024.</li> <li>• <b>Key differentiators:</b> NTT Data uses GenAI to transform its practices to apply learnings for clients. It has dozens of value-realizing case studies. It offers flexible pricing.</li> <li>• <b>Outcomes:</b> Outcomes include conversational bots to enhance multichannel customer experiences, documents turned into an interactive knowledge resource for employees, and improved document management and team collaboration.</li> <li>• <b>Customer kudos:</b> Customers like its realistic milestones, business-outcome focus, AI expertise, collaboration, and quality service and delivery talent.</li> <li>• <b>Partner kudos:</b> Partners appreciate its ability to understand client needs, execution, talent, deep insights, and strong client relationships.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>What we’d like to see more of:</b> Turn up the marketing volume. With 300+ opportunities in just “several” clients, NTT Data should be reaching a wider audience with its dozens of successfully implemented GenAI-related case studies.</li> <li>• <b>What we’d like to see less of:</b> Let’s see GenAI applied to discover new ways of working rather than augmenting more mature approaches.</li> <li>• <b>Customer critiques:</b> Customers struggle where team members aren’t as multilingual as they’d like, and they’d like to see more creative commercial models in AI.</li> <li>• <b>Partner critiques:</b> Partners would like to see solutions catering to middle-market customers instead of only high-end customers and leverage innovation and client base to scale across clients.</li> </ul>

Key offerings	Mergers and acquisitions (2019 – 2023)
<ul style="list-style-type: none"> <li>• Infrastructure and tools: Development of use cases, responsible governance</li> <li>• GenAI is embedded in NTT DATA’s storylines specifically designed for CxOs challenges, for example the CDO journey and the Intelligent Platform (CTOs)</li> <li>• Data and intelligence business strategy and advisory: AI governance, AI prototyping, AI service-driven design, AI regulation, generative AI, AI-driven organization, AI hub</li> <li>• Data and intelligence technology modernization: AI architectures, MLOps, AI solutions</li> </ul>	<ul style="list-style-type: none"> <li>• Aspirant Consulting: Data analytics, digital product development, digital enablement, management consulting and strategy (2022)</li> <li>• Chainalytics: Supply chain consulting and managed analytics services (2021)</li> <li>• HashMap: Data-driven services as cloud modernization, data protection, and data platforms and architecture (2020)</li> </ul>

Partnerships	Key clients	Relevant global operations and resources	Flagship internal IP
<ul style="list-style-type: none"> <li>• Microsoft</li> <li>• Adobe</li> <li>• IBM</li> <li>• OpenAI, Hugging Face, Google, Amazon, Meta</li> <li>• SAP, Kore.ai</li> </ul>	<p><b>Number of clients:</b> 50+</p> <p><b>Key clients</b></p> <ul style="list-style-type: none"> <li>• Utilities: Iberdrola and others</li> <li>• Pharma: Pfizer Inc., Ammirall, AvMed</li> <li>• Banking: Top global bank</li> <li>• Public sector: Machida City, Madrid, several municipalities</li> <li>• Retail: Walmart Chile, L’Oréal</li> <li>• Top telco in EMEAL</li> </ul>	<ul style="list-style-type: none"> <li>• <b>AI-driven revenue:</b> Not disclosed</li> <li>• <b>Headcount:</b> 10,000 FTE in data and intelligence</li> <li>• <b>Talent profile:</b> Business consultants, data scientists, data engineers, AI engineers, platform admins</li> <li>• <b>Headcount growth locations:</b> Japan, EMEAL, APAC, Americas</li> <li>• <b>Targeted industries:</b> None specified</li> <li>• <b>AI labs:</b> Six innovation centers in Japan, United States, Italy, Germany, China, and India</li> </ul>	<ul style="list-style-type: none"> <li>• IDP and knowledge management: Dolffia, Litron, and Knowler to extract information from documents, augmented Q&amp;A, improved knowledge graphs and ontologies</li> <li>• Conversational AI: Eva leverages GenAI to provide 24x7 customer service and applies cognitive learning.</li> <li>• Code generation and transformation: Coding by NTT Data, Dedalow for fast code, automating end-to-end software development</li> <li>• Intelligent managed services: Nucleus, Clonika, uses GenAI to automate enterprise outcomes, including IT environment management and workflow optimization</li> </ul>

# 6

## Further reading



# Primers, advice, and guidance for the new world of GenAI

GenAI is very new to most enterprise leaders. In this report, you may read references to terms such as large language models (LLM), fine-tuning, prompt engineering, and other language that has only recently broken out of the AI lab. The HFS Points of View articles below provide primers and additional advice and guidance. Click each to read in full.



## The dos and don'ts and potential costs of GenAI

David Cushman, Executive Research Leader

CEOs are under intense pressure to adopt generative artificial intelligence (GenAI) as their boards and shareholders look to them to solve [the digital dichotomy](#). We've all lived through disruptive forces, but it's the sheer rate of acceleration of the capabilities, seen in examples such as ChatGPT and Midjourney, keeping CEOs up at night.

To ease your sleep, we have identified what you should and shouldn't do when determining how to integrate GenAI into your business—and how much you can expect to pay to use it. Yes, pay. For example, many of us have kicked the tires on ChatGPT in a free version. But ChatGPT [costs \\$700,000 a day](#) to run. Someone has to pay, and it's going to be the enterprise.



## Generative AI meets software development: the advent of generative coding

Joel Martin, Executive Research Leader

HFS predicts the rapid rise of “generative coding,” which goes beyond the current use of generative artificial intelligence (GenAI) to convert code. Generative coding will embrace the automated creation, manipulation, conversion, and optimization of code. While humans will oversee the requirements and approve the delivery of outcomes, generative coding will intertwine human and machine coding practices throughout the software development lifecycle (SDLC) to craft composable applications and microservices that human and machine teams reintegrate as microservices—built for cloud deployment and curated by Kubernetes.



## Generative AI offers personalization and loyalty across the enterprise—if you get it right

Lasse Rindom, Associate Practice Leader

Generative AI (GenAI) has exploded onto the business agenda with a promise of next-generation personalization. With it, enterprises could be on the verge of huge improvements in customer experience and employee experience. It enables more granular interactions and eventually makes every interaction a conversation—not just a message. To unlock the value, enterprise leaders must carefully manage how they access and apply personal data. Get this wrong, and hyper-personalization can result in creeped-out customers and employees running from you rather than buying into you.

More to read 

# Primers, advice, and guidance for new world of GenAI

Click each image below to read in full.

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## The bots ARE coming for your job after all

David Cushman, Executive Research Leader

Generative AI (GenAI) is coming for the opposite end of the jobs continuum from robotic process automation (RPA). RPA handles rote tasks, freeing teams to be more imaginative and allowing them to apply their creativity to solve the bigger problems businesses face. While this encourages us to rethink work, it does not demand it of us. It only chips away at the cheaper-to-perform tasks in our business processes.

But GenAI is coming for you and how you work. And if it's coming for you, you'd better rethink how work at the pricier end of the spectrum gets done and find yourself a role in that new reality while you are at it.

**HFS**

## How business leaders can take control of the GenAI conversation

David Cushman, Executive Research Leader

Generative AI is rocking the business world. It summarizes, answers questions, creates content, and creates code—but what is it?

Any business leader facing the clamor to use generative AI (GenAI) should read our POV [Do's and don'ts and potential costs of GenAI](#) to understand appropriate use cases. But when an emerging technology arrives with the promise of cost take-out across the enterprise, it's worth taking a moment to get up to speed with the key terms so you can pull the conversation back into line when the techies start darting off into uncharted territories. What is it you are being offered when they tell you GenAI is the solution?

Let's start by establishing where GenAI sits in the world of artificial intelligence (AI). GenAI is a form of machine learning, and machine learning is a subset of AI. Let's be clear about what each of these terms describes.

**HFS**

## Keep your options open when it comes to public or private LLMs

David Cushman, Executive Research Leader


Enterprise leaders are being sold generative AI (GenAI) tools on the promise of boosted productivity and more effective employees. To deliver, leaders are being asked to choose between public or private offerings when selecting a large language model (LLM). Both public and private models come with benefits and risks—but this is an extremely fast-moving landscape. Therefore, for success in the journey to [The Generative Enterprise](#), it's important for enterprise leaders to consider composable architectures to keep their options open.

LLMs are the engines that enable GenAI to generate novel outcomes, such as summarizations, content, and code, drawing on the data provided. Public LLMs have more comprehensive access to data sets; for example, ChatGPT has millions of users adding content and challenging it with prompts every day. Private LLMs are limited to using the data defined by their stakeholders. The enterprise might prefer to only use data it trusts—its own contracts, product documentation, or employee and customer information. For example, HFS Research, working with Humata, has deployed a private instance of an LLM across our research content. Try querying it for yourself on our [website](#).

More to read

# You and your teams should be using GenAI daily

Click each image below to read in full. Click the image on the far right to try HFS' LLM.




## Generative AI will bring more humanity into the workplace

Dana Daher, Associate Practice Lead

In an era defined by [The Great Resignation](#), work models changing by the minute, and the promise of artificial intelligence (AI) to enhance—and [potentially replace](#)—tasks, it has become clear that we are amid a paradigm shift in our approach to work. HFS has described this attack on workplace stability as [The Great Freakout!](#)

In this evolving landscape, enterprise leaders must find new ways to empower their workforce while driving new ways of working. Failure to do so may result in a disengaged workforce, reduced competitiveness, and a risk of being left behind.

Amid this unrest, AI, specifically generative AI (GenAI), has swept into the workplace as a powerful agent of change with the potential to fundamentally re-engineer all aspects of work while simultaneously bringing more humanity into the work—that's right, more, not less.



## If you aren't using GenAI daily, get out of the way!

David Cushman, Executive Research Leader

Leaders, you must equip yourself with a personal and daily understanding of the capabilities of generative AI (GenAI) or risk making decisions about the future of your business based on understanding technologies of the past. Too few of you have a hands-on, experience-based understanding of what GenAI can do and the risks and obstacles you should consider and are instead relying on third-party interpretations.

## Research & Insights

### Stop searching. Start asking.

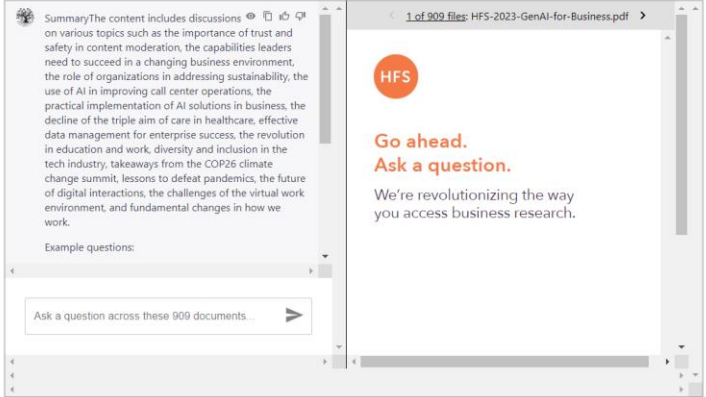
We've trained a generative AI model, powered by Humata.ai, on two years of research, across industries, technologies, and change agents.

**Go ahead. Ask a question.**

Instead of searching and clicking for what you'd like to know, why not just ask? Engaging with our research just got easier. Go ahead. Ask some questions like the examples below and [let us know what you think](#).

Try these:

**What are best practices in applications modernization?**



The screenshot shows a user interface for a generative AI search tool. On the left, there is a list of documents with a search bar and a 'Ask a question across these 909 documents' button. On the right, a document titled '1 of 909 files: HFS-2023-GenAI-for-Business.pdf' is displayed, showing a summary of content and a 'Go ahead. Ask a question.' prompt.

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HFS Research authors

# Phil Fersht, CEO and Chief Analyst, HFS

**Phil Fersht is widely recognized as the world's leading industry analyst focused on the reinvention of business operations to exploit technological innovations and the globalization of talent.**

He identifies change agents that enable organizations to streamline digital operations, access rapid and critical data to base decisions, and exploit the increasingly available global base of talent. He coined the term “Generative Enterprise™” in 2023 to articulate the pursuit of AI technologies based on large language models (LLMs) and ChatGPT to reap huge business benefits to organizations in terms of continuously generating new ideas, redefining how work gets done, and disrupting business models steeped in decades of antiquated processes and technology.



He has a global reputation spanning more than two decades for calling out the big trends, being unafraid to share his honest views, and driving a narrative on the technology and business services industries that shape many leadership decisions. His reputation drove him to establish HFS Research in 2010, which has today grown into one of the leading industry analyst and advisory firms and the undisputed leader in IT business services and process technologies research.

In 2012, he authored the first analyst report on robotic process automation (RPA), introducing this topic to the industry. He is widely recognized as the pioneering analyst voice that created and inspired today's RPA and process AI industry. Fersht coined the term "OneOffice™" in 2016 to describe HFS Research's vision for future business operations amidst the impact of cloud, automation, AI, and disruptive digital business models. OneOffice is the foundation of the hybrid (virtual-physical) workforce, where automation and AI tools augment the employees' digital capabilities and the workplace becomes a plug-and-play, work-from-anywhere scenario. Silos between the front, middle, and back offices are collapsed into a single office, where all employees are empowered and motivated by common outcomes and common values.

Prior to founding HFS in 2010, Phil has held various analyst roles for Gartner (AMR) and IDC and was BPO Marketplace leader for Deloitte Consulting across the United States. Over the past 20 years, Fersht has lived and worked in Europe, North America, and Asia, where he has advised on hundreds of operations strategy, outsourcing, and global business services engagements.

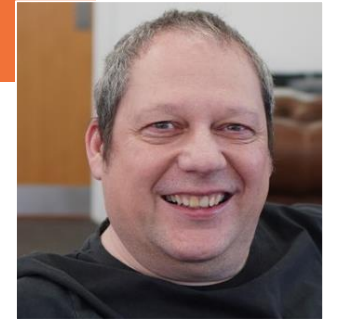
# David Cushman, Exec Research Leader, HFS

**David leads our Emerging Technology Practice, tracking OneOffice™ and OneEcosystem™ enablers from automation and AI, data and design thinking, process orchestration, workflow, and intelligence, metaverse, and Web3. He also engages in the impact of technology on how we work and on our employee experience.**

David leads our HFS Hot Vendors program, too. Experienced in start-up, scale-up, and large-scale digital transformation programs, he has led digital development at the UK's fastest-growing media company, founded and grown digital consultancies across Europe and worked with world-class companies as a director in digital strategy advisory at a tier-1 services provider.

He is the author of *The 10 Principles of Open Business* (Palgrave Macmillan, 2014), and he holds a joint honors degree in Philosophy and Sociology from the University of Essex.

David lives in Cambridgeshire, UK, with his wife and daughter, and he enjoys reading, writing, traveling, and thinking (exploration of all kinds). He embraces change and always seeks the learning opportunity. But, for all that, he has supported Leeds United Football Club since he was seven years old. Some things just can't be unlearned.



# HFS Research authors



**Saurabh Gupta**

President, Research and advisory

[saurabh.gupta@hfsresearch.com](mailto:saurabh.gupta@hfsresearch.com)

Saurabh Gupta is President, Research and Advisory Services at HFS. He sets the strategic research focus and agenda for HFS Research, understanding and predicting the needs of the industry and ensuring that HFS maintains its position as the strongest impact thought leader for business operations and services research. He oversees HFS' global research function managing the global team of analysts and operations across US, Europe, and Asia.



**Niti Jhunjunwala**

Senior Analyst

[niti@hfsresearch.com](mailto:niti@hfsresearch.com)

Niti is a senior analyst at HFS Research. She works on competitive intelligence across IT and business process services. She joined us with more than six years of experience in market research. She holds an MBA degree specializing in Finance and Marketing and B.Tech in Information Technology. She is based out of Kolkata. In her spare time, she loves reading, travelling, and going for walks. On weekends she enjoys painting, spending time with her nephew and binge-watching series on Netflix.



# About HFS

## Insight. Inspiration. Impact.

HFS is a leading global research and analysis firm trusted at the highest levels of executive leadership. Our mission is to help our clients tackle challenges, make bold moves, and bring big ideas to life by arming them with accurate, visionary, and thought-provoking insight into issues that impact their business.

Our analysts and strategists have deep, real-world experience in the subjects they cover. They're respected for their independent, no-nonsense perspectives based on thorough research, demand-side data, and personal engagements with industry leaders.

We have one goal above all others: to propel you to success.

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